

REMARKS

This is intended as a full and complete response to the Office Action dated June 4, 2003, having a shortened statutory period for response set to expire on September 4, 2003. Please reconsider the claims pending in the application for reasons discussed below.

Claims 34-54 are pending in the application. Claims 34-39 and 41-45 are rejected. Claims 40 and 46-54 are withdrawn from consideration. Applicants have canceled claims 40 and 46-54.

Claims 34-39 and 41-45 are rejected under 35 U.S.C. § 102(e) as being anticipated by *Wang* (U.S. Patent No. 6,447,668). Applicants have amended claim 34 to specify that the cathode fluid dispensing nozzle is pivoted to dispense the metal removing solution across a surface of the substrate while the substrate is rotating. Applicants have amended claim 35 to correspond to claim 34 and to correct a typographical error. Applicants submit that the changes made herein do not introduce new matter.

Applicants submit that *Wang* does not teach or suggest a method of removing a metal layer from a substrate that includes pivoting the cathode fluid dispensing nozzle in order to dispense the metal removing solution across a surface of the substrate while the substrate is rotating. *Wang* shows and describes many embodiments of electropolishing apparatus in which a substrate in a face down position is contacted with a solution that is dispensed by fixed inlets (e.g., Figures 7, 11, 12, etc.), fixed tubes (Figure 22), fixed valves (Figure 24), or jets on a movable linear track (Figure 28, column 37, lines 1-30). *Wang* also describes an embodiment of an apparatus in which a substrate in a face up position is contacted with a solution that is dispensed by jets on a movable linear track (Figure 35A, column 38, lines 41-46). None of the embodiments of *Wang* teach or suggest dispensing a de-plating solution from a nozzle that pivots to dispense solution across the substrate. Thus, *Wang* does not teach, show, or suggest a method for removing a metal layer from a substrate, comprising rotating a substrate in a face up position on a rotatable substrate support member, positioning a cathode fluid dispensing nozzle over the substrate, dispensing a metal removing solution from the

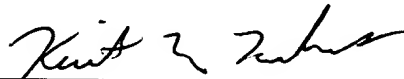
cathode fluid dispensing nozzle onto the substrate, applying an electrical bias between the substrate and the cathode fluid dispensing nozzle, and pivoting the cathode fluid dispensing nozzle in order to dispense the metal removing solution across a surface of the substrate while the substrate is rotating, as recited in amended claim 34. Applicants respectfully request allowance of claim 34, and of claims 35-39 and 41-45, which depend thereon.

Applicants submit that new claims 55-58 are patentable for the reasons discussed above with respect to claim 34, upon which new claims 55-58 depend. Applicants further submit that *Wang* does not teach or suggest dispensing a neutralizing fluid onto the substrate surface to dilute the metal removing solution, as described in claim 55. Applicants respectfully request allowance of new claims 55-58.

Applicants submit that new claims 59 and 60 are patentable for the reasons for the reasons discussed above with respect to claim 34, as claims 59 and 60 include all of the elements of claim 34. Applicants further submit that *Wang* does not teach or suggest removing a conductive layer from the backside of the substrate, as described in claim 59. There is no suggestion in *Wang* that the substrates described therein include a conductive layer on the backside or that a conductive layer on the backside of the substrate is removed in the processes described therein. *Wang* only describes a substrate that includes a backside layer 124 that is preferably silicon, or alternatively, a semiconductor layer (column 7, lines 41-50, Figures 1A-1D). Applicants respectfully request allowance of claims 59 and 60.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the method or apparatus of the present invention. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



Keith M. Tackett
Registration No. 32,008
MOSER, PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd., Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicant(s)